WHAT IS CLAIMED IS:

1. A video signal processing apparatus for processing input video signals comprising:

a video signal source for supplying the input video signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines; and

a video signal processor for converting at least the first and the second video signals into a third video signal that is a progressive signal having 1440 effective scanning lines, thus outputting the third video signal.

2. The video signal processing apparatus according to claim 1, wherein the input signals further carries a fourth video signal that is a progressive signal having 480 effective scanning lines, the video signal processor converting the first and the second video signals and the fourth video signal into the third video signal, thus outputting the third video signal.

3. The video signal processing apparatus according to claim 2, wherein the input signals further carries a fifth video signal that is a progressive signal having 720 effective scanning lines, the video signal processor converting the first, the second and the fourth video signals and the fifth video signal into the third video signal, thus outputting the third video signal.

4. The video signal processing apparatus according to claim 1 further comprising a progressive-to-interlace converter for converting the output third video signal into a sixth video signal that is an interlaced signal, thus outputting the six video signal.

5. The video signal processing apparatus according to claim 2 further comprising a progressive-to-interlace converter for converting the output third video signal into a sixth video signal that is an interlaced signal, thus outputting the six video signal.

6. The video signal processing apparatus according to claim 3 further comprising a progressive-to-interlace converter for converting the output third video signal into a sixth video signal that is an interlaced signal, thus outputting the six video signal.

7. The video signal processing apparatus according to claim 3, wherein the video signal processor includes:

an interlace-to-progressive converter for converting the first video signal and the second video signal into a seventh video signal and an eighth video signal, respectively, both seventh and eighth video signals being progressive signals;

a 6/2 converter for multiplying the scanning lines of the fourth and the seventh video signals by 6/2, thus outputting a first output signal;

a 2/1 converter for multiplying the scanning lines of the fifth video signal by 2/1, thus outputting a second output signal; and

a 4/3 converter for multiplying the scanning lines of the eighth video signal by 4/3, thus outputting a third output signal,

wherein the video signal processor converts the first, the second and the third output signals into the third video signal.

8. A video displaying apparatus for displaying pictures based on input video signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines, the apparatus comprising:

a video signal processor for converting at least the first and the second video signals into a third video signal that is a progressive signal having 1440 effective scanning lines , thus outputting the third video signal; and

a displaying section for displaying pictures of the third video signal.

9. The video displaying apparatus according to claim 8, wherein the input signals further carries a fourth video signal that is

a progressive signal having 480 effective scanning lines, the video signal processor converting the first and the second video signals and the fourth video signal into the third video signal, thus outputting the third video signal.

10. The video displaying apparatus according to claim 9, wherein the input signals further carries a fifth video signal that is a progressive signal having 720 effective scanning lines, the video signal processor converting the first, the second and the fourth video signals and the fifth video signal into the third video signal, thus outputting the third video signal.

11. The video displaying apparatus according to claim 10 wherein the video signal processor includes:

an interlace-to-progressive converter for converting the first video signal and the second video signal into a sixth video signal and a seventh video signal, respectively, both sixth and seventh video signals being progressive signals;

a 6/2 converter for multiplying the scanning lines of the fourth and the sixth video signals by 6/2, thus outputting a first output signal;

a 2/1 converter for multiplying the scanning lines of the fifth video signal by 2/1, thus outputting a second output signal; and

a 4/3 converter for multiplying the scanning lines of the seventh video signal by 4/3, thus outputting a third output signal,

wherein the video signal processor converts the first, the second and the third output signals into the third video signal.

12. A video displaying apparatus for displaying pictures based on input video signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines, the apparatus comprising:

a video signal processor for converting at least the first and the second video signals into a third video signal that is an interlaced signal having 1440 effective scanning lines, thus

outputting the third video signal; and

a displaying section for displaying pictures of the third video signal.

13. The video displaying apparatus according to claim 12, wherein the input signals further carries a fourth video signal that is a progressive signal having 480 effective scanning lines, the video signal processor converting the first and the second video signals and the fourth video signal into the third video signal, thus outputting the third video signal.

14. The video displaying apparatus according to claim 13, wherein the input signals further carries a fifth video signal that is a progressive signal having 720 effective scanning lines, the video signal processor converting the first, the second and the fourth video signals and the fifth video signal into the third video signal, thus outputting the third video signal.

15. The video displaying apparatus according to claim 14 wherein the video signal processor includes:

an interlace-to-progressive converter for converting the first video signal and the second video signal into a sixth video signal and a seventh video signal, respectively, both sixth and seventh video signals being progressive signals;

a 6/2 converter for multiplying the scanning lines of the fourth and the sixth video signals by 6/2, thus outputting a first output signal;

a 2/1 converter for multiplying the scanning lines of the fifth video signal by 2/1, thus outputting a second output signal; and

a 4/3 converter for multiplying the scanning lines of the seventh video signal by 4/3, thus outputting a third output signal,

wherein the video signal processor converts the first, the second and the third output signals into the third video signal.

16. A video displaying apparatus that receives input video signals carrying at least a first video signal that is an interlaced signal

at a horizontal frequency of 15. 75 KHz and a second video signal that is an interlaced signal at a horizontal frequency of 33. 75 KHz, the apparatus comprising:

a video signal processor for converting at least the first and the second video signals into a third video signal that is an interlaced signal;

a cathode-ray-tube (CRT) displaying section for displaying pictures of the third video signal;

a deflector for deflecting electron beams in the CRT displaying section in a horizontal direction and a vertical direction so that the CRT displaying section displays the pictures of the third video signal; and

a phase-lock-loop circuitry, having a predetermined locking range including a frequency of 45 KHz, for supplying a single horizontal synchronizing signal at a frequency included in the locking range.

17. The video displaying apparatus according to claim 16, wherein the input signals further carries a fourth video signal that is a progressive signal at a horizontal frequency of 31. 5 KHz, the video signal processor converting the first and the second video signals and the fourth video signal into the third video signal.

18. The video displaying apparatus according to claim 17, wherein the input signals further carries a fifth video signal that is a progressive signal at a horizontal frequency of 45 KHz, the video signal processor converting the first, the second and the fourth video signals and the fifth video signal into the third video signal.

19. A video signal processing apparatus for processing input signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines, the apparatus comprising:

a first converter for converting the number of the effective scanning lines of the first video signal into 1440, thus outputting

the first video signal that is an interlaced signal having 1440 effective scanning lines; and

a second converter for adding a non-video signal to the second video signal with no conversion of the number of the effective scanning lines of the second video signal, thus outputting the second video signal that is an interlaced signal having 1440 effective scanning lines.

20. The video displaying apparatus according to claim 19, wherein the input signals further carries a third video signal that is a progressive signal having 480 effective scanning lines, the apparatus further comprising a third converter for converting the number of the effective scanning lines of the third video signal into 1440, thus outputting the third video signal that is an interlaced signal having 1440 effective scanning lines.

21. The video displaying apparatus according to claim 20, wherein the input signals further carries a fourth video signal that is a progressive signal having 720 effective scanning lines, the apparatus further comprising a fourth converter for converting the number of the effective scanning lines of the fourth video signal into 1080 and adding a non-video signal to the fourth video signal having 1080 effective scanning lines, thus outputting the fourth video signal that is an interlaced signal having 1440 effective scanning lines.

22. A video displaying apparatus for displaying pictures of input signals on displaying section at an aspect ratio of 4 : 3, the input signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines, the apparatus comprising:

a first converter for converting the number of the effective scanning lines of the first video signal into 1440, thus outputting the first video signal that is an interlaced signal having 1440 effective scanning lines;

a second converter for adding a non-video signal to the

second video signal with no conversion of the number of the effective scanning lines of the second video signal, thus outputting the second video signal that is an interlaced signal having 1440 effective scanning lines,

wherein a picture of the output second video signal is displayed on the displaying section almost on a middle zone in a vertical direction of the displaying section and non-picture portions corresponding to the non-video signal are arranged on upper and lower zones in the vertical direction of the displaying section.

23. The video displaying apparatus according to claim 22, wherein the input signals further carries a third video signal that is a progressive signal having 480 effective scanning lines, the apparatus further comprising a third converter for converting the number of the effective scanning lines of the third video signal into 1440, thus outputting the third video signal that is an interlaced signal having 1440 effective scanning lines.

24. The video displaying apparatus according to claim 23, wherein the input signals further carries a fourth video signal that is a progressive signal having 720 effective scanning lines, the apparatus further comprising a fourth converter for converting the number of the effective scanning lines of the fourth video signal into 1080 and adding another non-video signal to the fourth video signal having the 1080 effective scanning lines, thus outputting the fourth video signal that is an interlaced signal having 1440 effective scanning lines, a picture of the output fourth video signal being displayed on the displaying section almost on a middle zone in the vertical direction of the displaying section and non-picture portions corresponding to the other non-video signal are arranged on upper and lower zones in the vertical direction of the displaying section.

25. A video displaying apparatus including a first video signal source for outputting a first video signal that is either of an interlaced signal having 480 effective scanning lines, another

interlaced signal having 1080 effective scanning lines, a progressive signal having 480 effective scanning lines and another progressive signal having 720 effective scanning lines, a second video signal source for outputting a second video signal that is an interlaced signal having 480 effective scanning lines at an aspect ratio of 4 : 3, and a displaying section having an aspect ratio of 16: 9, the apparatus comprising:

a converter for converting the first video signal into a third video signal that is an interlaced signal having 1440 effective scanning lines;

a scale-down section for scaling down the second video signal in a horizontal direction of the displaying section by cyclically decimating pixels of the second video signal in the horizontal direction with no decimation of the scanning lines of the second video signal; and

a synthesizer for synthesizing the third video signal and the scaled-down second video signal so that a picture of the third video signal is displayed on a zone in the horizontal direction of the displaying section and another picture of the scaled-down second video signal is displayed on a remaining zone of the displaying section.

26. The video displaying apparatus according to claim 25, wherein the second video signal source includes a tuner, the apparatus further comprising:

a channel switch for sequentially switching channels received by the tuner so that pictures of the second video signal are sequentially different from each other in accordance with the switched channels; and

a memory for storing two still pictures of scaled-down signal components of the scaled-down second video signal, that correspond to two channels before switching,

wherein the synthesizer synthesizes the third video signal and the scaled-down second video signal so that the picture of the third video signal is displayed on the zone in the horizontal direction of the displaying section, and the two sill pictures of the scaled-down signal components stored in the memory and

another picture of a scaled-down signal component of the scaled-down second video signal, that corresponds to the present channel are displayed on the remaining zone as aligned in a vertical direction of the displaying section.

27. A video displaying apparatus including a first video signal source for outputting a first video signal that is either of an interlaced signal having 480 effective scanning lines, another interlaced signal having 1080 effective scanning lines, a progressive signal having 480 effective scanning lines and another progressive signal having 720 effective scanning lines, a second video signal source, a third video signal source and a fourth video signal source for outputting a second video signal, a third video signal and a fourth video signal, respectively, each of the second, the third and the fourth video signals being an interlaced signal having 480 effective scanning lines at an aspect ratio of 4 : 3, and a displaying section having an aspect ratio of 16: 9, the apparatus comprising:

a converter for converting the first video signal into a fifth video signal that is an interlaced signal having 1440 effective scanning lines;

a scale-down section for scaling down the second, the third and the fourth video signals in a horizontal direction of the displaying section by cyclically decimating pixels of the second, the third and the fourth video signals in the horizontal direction with no decimation of the scanning lines of the second, the third and the fourth video signal; and

a synthesizer for synthesizing the fifth first video signal and the scaled-down second, third and fourth video signals so that a picture of the fifth video signal is displayed on a zone in the horizontal direction of the displaying section and other pictures of the scaled-down second, third and fourth video signals are displayed on remaining zones of the displaying section as aligned in a vertical direction of the displaying section.

28. A video displaying apparatus including at least one video signal source for outputting a first video signal that is an

interlaced signal having 480 effective scanning lines, the apparatus comprising:

a displaying section capable of displaying pictures of a second video signal that is an interlaced signal having 1440 effective scanning lines;

a picture processor for processing the first and the second video signals by allocating substantially all of scanning lines of the first video signal to a part of the second video signal with no cyclic decimation of and no increase in the scanning lines of the first video signal; and

a driver for driving the displaying section to display pictures of the processed first and second video signals.

29. A video displaying apparatus including a video signal source for outputting a first video signal, a second video signal and a third video signal, each being an interlaced signal having 480 effective scanning lines and carrying moving pictures or still pictures, the apparatus comprising:

a displaying section capable of displaying pictures of a fourth video signal that is an interlaced signal having 1440 effective scanning lines;

a picture processor for processing the first, the second and the third video signals by allocating substantially all of scanning lines of the first, the second and the third video signals to the fourth video signal with no cyclic decimation of and no increase in the scanning lines of the first, the second and the third video signals; and

a driver for driving the displaying section to display the processed first, second and third video signals as aligned in a vertical direction of the displaying section.

30. A video signal processing method of processing input video signals carrying at least a first video signal that is an interlaced signal having 480 effective scanning lines and a second video signal that is an interlaced signal having 1080 effective scanning lines, the method comprising the step of converting at least the first and the second video signals into a third video signal that

is a progressive signal having 1440 effective scanning lines, thus outputting the third video signal.

31. The video signal processing method according to claim 30 further comprising the step of converting the output third video signal into a fourth video signal that is an interlaced signal, thus outputting the fourth video signal.